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WATER SUPPLY OUTLOOK FOR WASHINGTON

and
FEDERAL - STATE - PRIVATE COOPERATIVE SNOW SURVEYS

UNITED STATES DEPARTMENT of AGRICULTURE...SOIL CONSERVATION SERVICE,

and
DEPARTMENT of WATER RESOURCES STATE of WASHINGTON

Data included in this report were obtained by the agencies named above in cooperation with the U.S. Forest Service, U.S. Geological Survey, National Park Service, and other Federal, State and Private organizations.

AS OF
JUNE 1, 1969

TO RECIPIENTS OF WATER SUPPLY OUTLOOK REPORTS:

Most of the usable water in western states originates as mountain snowfall. This snowfall accumulates during the winter and spring, several months before the snow melts and appears as streamflow. Since the runoff from precipitation as snow is delayed, estimates of snowmelt runoff can be made well in advance of its occurrence. Streamflow forecasts published in this report are based principally on measurement of the water equivalent of the mountain snowpack.

Forecasts become more accurate as more of the data affecting runoff are measured. All forecasts assume that climatic factors during the remainder of the snow accumulation and melt season will interact with a resultant average effect on runoff. Early season forecasts are therefore subject to a greater change than those made on later dates.

The snow course measurement is obtained by sampling snow depth and water equivalent at surveyed and marked locations in mountain areas. A total of about ten samples are taken at each location. The average of these are reported as snow depth and water equivalent. These measurements are repeated in the same location near the same dates each year.

Snow surveys are made monthly or semi-monthly from January 1 through June 1 in most states. There are about 1400 snow courses in Western United States and in the Columbia Basin in British Columbia. In the near future, it is anticipated that automatic snow water equivalent sensing devices along with radio telemetry will provide a continuous record of snow water equivalent at key locations.

Detailed data on snow course and soil moisture measurements are presented in state and local reports. Other data on reservoir storage, summaries of precipitation, current streamflow, and soil moisture conditions at valley elevations are also included. The report for Western United States presents a broad picture of water supply outlook conditions, including selected streamflow forecasts, summary of snow accumulation to date, and storage in larger reservoirs.

Snow survey and soil moisture data for the period of record are published by the Soil Conservation Service by states about every five years. Data for the current year is summarized in a West-wide basic data summary and published about October 1 of each year.

PUBLISHED BY SOIL CONSERVATION SERVICE

The Soil Conservation Service publishes reports following the principal snow survey dates from January 1 through June 1 in cooperation with state water administrators, agricultural experiment stations and others. Copies of the reports for Western United States and all state reports may be obtained from Soil Conservation Service, Western Regional Technical Service Center, Room 209, 701 N. W. Glisan, Portland, Oregon 97209.

Copies of state and local reports may also be obtained from state offices of the Soil Conservation Service in the following states:

STATE	ADDRESS
Alaska	P. O. Box "F", Palmer, Alaska 99645
Arizona	6029 Federal Building, Phoenix, Arizona 85205
Colorado (N. Mex.)	12417 Federal Building, Denver, Colorado 80521
Idaho	P. O. Box 38, Boise, Idaho 83707
Montana	P. O. Box 98, Bozeman, Montana 59715
Nevada	P. O. Box 4850, Reno Nevada 89505
Oregon	1218 S. W. Washington St., Portland, Oregon 97205
Utah	4012 Federal Building, Salt Lake City, Utah 84111
Washington	360 U.S. Court House, Spokane, Washington 99201
Wyoming	P. O. Box 340, Casper, Wyoming 82602

PUBLISHED BY OTHER AGENCIES

Water Supply Outlook reports prepared by other agencies include a report for California by the Water Supply Forecast and Snow Surveys Unit, California Department of Water Resources, P. O. Box 388, Sacramento, California 95802 --- and for British Columbia by the Department of Lands, Forests and Water Resources, Water Resources Service, Parliament Building, Victoria, British Columbia



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WATER SUPPLY OUTLOOK

State of Washington

June 1, 1969

*
* The water supply outlook in the State of Washington and its tributary *
* streams for the remainder of the irrigation or runoff season contin- *
* ues to deteriorate. The few snow courses that are measured in the *
* State as well as tributary areas generally have less than normal snow *
* packs. Precipitation during the past month was normal or below while *
* the runoff was well above normal. The combination of these factors *
* means that the remaining runoff yet to come will be below normal *
* through September although individual months could have above normal *
* water supply.
* *

SNOW COVER

There are only a few snow courses measured in the State as of May 15 and/or June 1. Indications are that the snowpacks have deteriorated at a faster rate than normal from the 15th of May to the 1st of June and only two or three snow courses now have above normal amounts of snow left. Generally speaking, the snowpacks are down to 60% of normal as of the 1st of June--a reduction of 10 to 15% from that measured on May 15.

RESERVOIRS

All irrigation reservoirs filled and spilled during the early runoff season. Power reservoirs, while not filled to capacity, generally have well above normal amounts of water in storage. Franklin D. Roosevelt Lake still has less than normal amounts of water but is filling rapidly.

PRECIPITATION

As reported by the U. S. Weather Bureau, precipitation was above normal only on the western slopes of the Cascades, the upper Columbia drainage in Canada, and in the central portion of the State. This ranged from one to five percent above normal. All other drainage divisions reported below normal precipitation during the month of May with the lowest occurring in the Okanogan-Methow area which had a 35% below normal rainfall during the month.

STREAMFLOW

The runoffs during May, as stated above, were all above normal with the higher amounts occurring in the Yakima and the lower occurring in the northcentral area of the State. These high flows, percentagewise, will mean that the August-September runoff will be less than normal and could be deficient if the forecasts as previously published are correct.

RESERVOIR STORAGE - 1000 Acre Feet

BASIN or STREAM	RESERVOIR	USABLE ^{1/} CAPACITY	1969	Measured 1968	(June) 1967	Normal*
<u>COLUMBIA</u>						
Spokane	Coeur d'Alene Lake	225.1	289.5	218.0	364.9	327.0
Columbia	Franklin D. Roosevelt Lake	5232.0	2122.3	2201.2	3286.0	3965.2
Columbia	Banks Lake	761.8	347.4	364.4	420.2	435.3
Okanogan	Conconully Reservoir	13.0	12.9	7.9	9.1	9.8
Okanogan	Salmon Lake	10.5	10.5	10.3	6.8	9.6
Chelan	Lake Chelan	676.1	572.2	651.8	318.0	467.6
<u>YAKIMA</u>						
Yakima	Keechelus Lake	157.8	160.4	146.3	144.1	144.8
Kachess	Kachess Lake	239.0	240.5	224.2	211.0	228.9
Cle Elum	Lake Cle Elum	436.9	421.3	432.1	379.1	395.8
Bumping	Bumping Lake	33.7	29.6	23.2	27.3	30.6
Tieton	Rimrock Lake	198.0	197.5	168.4	184.7	180.4
<u>PUGET SOUND</u>						
Skagit	Ross Reservoir	1202.9	1105.0	1290.5	1059.7	1000.5
Skagit	Diablo Reservoir	90.6	87.5	86.2	84.0	84.1
Skagit	Gorge Reservoir	9.8	8.4	8.0	7.6	--

1/ Based on Active Storage

* 15-year average 1953-67

SOIL MOISTURE - JUNE

Drainage Basin and Station	Number	Elev.	Profile	(Inches) : Total	Soil Moisture Content (Inches) as of June 1	
			Depth	Capacity : 1969	1968	1967
<u>CRAB CREEK</u>						
Creston-Kunz	18B1m	2440	48	13.6	--	5.6
Jack Woods	18B3m	2600	48	13.6	8.9	9.3
Krause	18B4m	2440	48	13.6	9.1	7.8
Sheffels	18B5m	2360	48	13.6	7.9	6.7
Sherman	18B7m	2440	48	13.6	7.7	7.1
Wheatridge	18B6m	2200	48	13.6	7.6	7.1
<u>OKANOGAN</u>						
Salmon Meadows	19A2M	4500	48	5.4	3.6	3.8
Trout Creek	3-M	3600	48	7.3	Late Report	4.7
<u>YAKIMA</u>						
Domery Flat	21B20m	2200	48	6.9	Late Report	4.5
Lake Cle Elum	21B14M	2200	48	12.8	Late Report	8.9
<u>WALLA WALLA</u>						
Couse	17C3m	3650	48	11.1	11.0	6.4
Helmers	17C2M	4400	48	12.0	11.4	10.9
<u>WENATCHEE</u>						
Upper Wheeler	20B7M	4400	48	12.7	9.8	9.3
						11.3

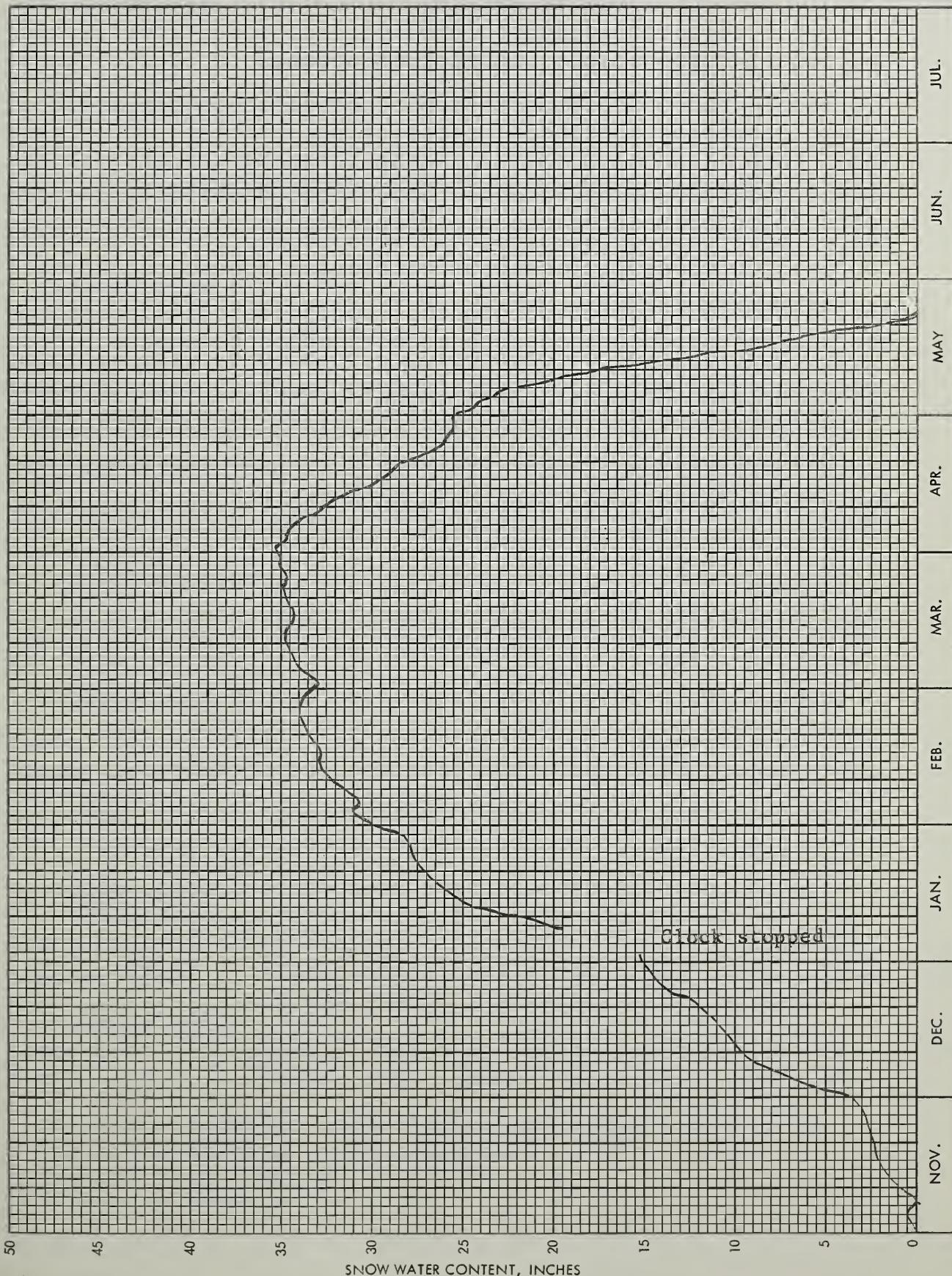
FALL SOIL MOISTURE

Drainage Basin and Station	Number	Elev.	Profile	(Inches) : Total	Soil Moisture Content (Inches) as of Oct. 1	
			Depth	Capacity : 1968	1967	1966
<u>CRAB CREEK</u>						
Creston-Kunz	18B1m	2440	48	13.6	5.0	4.6
Jack Woods	18B3m	2600	48	13.6	7.1	5.2
Krause	18B4m	2440	48	13.6	5.2	4.9
Sheffels	18B5m	2360	48	13.6	4.9	3.7
Sherman	18B7m	2440	48	13.6	3.9	3.6
Wheatridge	18B6m	2200	48	13.6	4.6	4.0
<u>OKANOGAN</u>						
Salmon Meadows	19A2M	4500	48	5.4	2.7	1.5
Trout Creek	3-M	3600	48	7.3	4.1	4.0
<u>YAKIMA</u>						
Domery Flat	21B20m	2200	48	6.9	3.1	4.8
Lake Cle Elum	21B14M	2200	48	12.8	5.2	9.1
<u>WALLA WALLA</u>						
Couse	17C3m	3650	48	11.1	7.4	5.4
Helmers	17C2M	4400	48	12.0	7.6	6.7
<u>WENATCHEE</u>						
Upper Wheeler	20B7M	4400	48	12.7	5.5	5.6
						5.7

SNOW PILLOW DATA

Berne-Mill Creek

Sec. 13 T. 26N R. 14E No. 21B41SP Drainage: Wenatchee
Lat. 47° 46' Long. 121° 01' Elev. 3170



APPENDIX 1
CORRECTIONS AND ADDITIONS - 1969 SNOW REPORTS

SNOW			1969			PAST RECORD		
DRAINAGE BASIN and SNOW COURSE			Date of Survey	Snow Depth (in.)	Water Content (in.)	Water Content (in.)		
Name	No.	Elev.				1968	1967	1953-67 Avg.

February 1

KETTLE RIVER

Carmi	Canada	4100	<u>2/1</u>	<u>32</u>	<u>5.7</u>	--	6.7	--
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OKANOGAN RIVER

Lost Horse Mountain	Canada	6300	<u>2/3</u>	<u>28</u>	<u>6.2</u>	<u>8.4</u>	<u>8.2</u>	<u>6.0**</u>
*Old Glory Mountain	Canada	<u>7000</u>	<u>2/1</u>	<u>86</u>	<u>28.0</u>	--	<u>22.1</u>	<u>18.0</u>
Salmon Meadows	19A2	4500	<u>2/4</u>	<u>42</u>	<u>11.4</u>	<u>6.9</u>	<u>6.4</u>	<u>7.3*</u>
Paysayten +	20A28a	4300	<u>2/1</u>	<u>60</u>	<u>19.2</u>	<u>7.7</u>	<u>17.8</u>	<u>11.6*</u>

METHOW RIVER

Billy Goat Pass +	20A10a	6409	<u>2/1</u>	<u>90</u>	<u>28.8</u>	<u>22.7</u>	<u>37.6</u>	<u>21.5*</u>
Dollar Watch +	20A29a	7000	<u>2/1</u>	<u>74</u>	<u>23.7</u>	<u>19.8</u>	<u>25.7</u>	<u>18.4*</u>
Horseshoe Basin +	19A5A	7000	<u>2/1</u>	<u>48</u>	<u>15.4</u>	<u>8.4</u>	<u>14.9</u>	<u>9.7*</u>
#Salmon Meadows	19A2	4500	<u>2/4</u>	<u>42</u>	<u>11.4</u>	<u>6.9</u>	<u>6.4</u>	<u>7.3*</u>

CHELAN LAKE BASIN

Safety Harbor +	20A30A	6300	<u>2/6</u>	<u>88</u>	<u>28.2</u>	--	20.8	--
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WENATCHEE RIVER

Blewett Pass #2	20B2	4270	<u>2/5</u>	<u>66</u>	<u>20.9</u>	<u>10.8</u>	<u>8.2</u>	<u>11.2</u>
Stevens Pass S Shed	21B45	3700	<u>11/5</u>	<u>21</u>	<u>3.0</u>	--	--	--

YAKIMA RIVER

#Blewett Pass #2	20B2	4270	<u>2/5</u>	<u>66</u>	<u>20.9</u>	<u>10.8</u>	<u>8.2</u>	<u>11.2</u>
Bumping Lake (New)	21C36	3400	<u>1/13</u>	<u>63</u>	<u>16.6</u>	<u>10.0</u>	<u>6.5</u>	--
Cooke Creek	20B10	4123	<u>2/6</u>	<u>33</u>	<u>8.1</u>	<u>2.9</u>	<u>1.8</u>	<u>5.0*</u>
High Creek	20B12	2930	<u>2/6</u>	<u>36</u>	<u>8.4</u>	<u>4.6</u>	<u>0.0</u>	<u>4.6*</u>
#Olallie Meadows	21B2	3625	<u>2/5</u>	<u>132</u>	<u>48.2</u>	<u>19.1</u>	<u>28.1</u>	<u>30.2</u>

LEWIS RIVER

Grand Meadow	21C25	3500	<u>2/6</u>	<u>93</u>	<u>28.6</u>	<u>16.2</u>	<u>17.0</u>	<u>16.9*</u>
Surprise Lakes	21C13A	4250	<u>2/6</u>	<u>145</u>	<u>50.2</u>	<u>27.4</u>	<u>37.7</u>	<u>32.7*</u>

COWLITZ RIVER

Cayuse Pass	21C6	5300	<u>1/28</u>	<u>182</u>	<u>64.4</u>	<u>46.6</u>	<u>67.1</u>	<u>56.3*</u>
Pigtail Peak	21C33	5900	<u>1/28</u>	<u>141</u>	<u>54.4</u>	<u>34.8</u>	<u>46.3</u>	--

+ Snow water equivalent estimated from aerial stadia observation

Not located directly on this drainage

* Adjusted 1953-67 average

** Average for years of record

APPENDIX 2

SNOW

DRAINAGE BASIN and SNOW COURSE			1969			PAST RECORD			
Name	No.	Elev.	Date of Survey	Snow Depth (in.)	Water Content (in.)	Water Content (in.)	1968	1967	1953-67 Avg.

Corrections and Additions - 1969 Snow Reports (Cont.)

February 1 (Cont.)GREEN RIVER

Grass Mtn #3	21B28	2100	2/3	57	16.7	0.0	0.0	--
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SKYKOMISH RIVER

#Stevens Pass S Shed	21B45	3700	11/15	21	3.0	--	--	--
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BAKER RIVER

#Panorama New	21A26	4300	1/13 1/26	139 142	40.0 49.0	New Course		
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NOOKSACK RIVER

Panorama New	21A26	4300	1/13 1/26	139 142	40.0 49.0	New Course		
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SKOKOMISH RIVER

Black & White Lakes	23B6	4700	2/5	138	49.0	40.5	54.1	41.5*
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March 1SPOKANE RIVER

Copper Ridge	16B2	4800	2/27	88	32.2	15.8	23.4	26.0
Forty-nine Meadows	15B3	5000	3/2	97	36.1	20.9	31.0	28.6*
Fourth of July Sum	16B3	3100	2/28	52	16.2	0.0	7.6	10.5*
Granite Peak	15B13A	6000	3/2	120	45.0	37.8	48.2	41.8*
Kellogg Peak +	16B5A	5560	2/27	105	39.1	23.0	28.6	28.2*
Lost Lake	15B14A	6000	3/1	162	63.7	45.2	62.1	53.6*
Lower Sands Creek	16B1	3400	2/27	68	22.7	11.0	15.2	17.8
Medicine Ridge	15B4A	6150	3/2	122	45.3	39.0	45.8	43.6*
#Mosquito Ridge +	16A4A	5110	2/27	107	39.8	32.2	47.1	33.8*
Outlaw Creek	15B12A	3750	3/1	62	20.1	11.7	14.0	13.7*
Roland Summit +	15B5A	5200	2/27	100	37.2	23.4	31.4	34.6*
Sherwin	16C1	3200	2/27	55	17.8	5.4	12.0	14.1*
Sunset +	15B9A	5600	2/27	109	40.5	34.6	40.2	29.9*

+ Snow water equivalent estimated from aerial stadia observation

Not located directly on this drainage

* Adjusted 1953-67 average

APPENDIX 3

SNOW

DRAINAGE BASIN and SNOW COURSE			1969			PAST RECORD		
Name	No.	Elev.	Date of Survey	Snow Depth (in.)	Water Content (in.)	Water Content (in.)		
						1968	1967	1953-67 Avg.

Corrections and Additions - 1969 Snow Reports (Cont.)

March 1 (Cont.)OKANOGAN RIVER

Clark + 19A8a 7000 3/3 66 19.8 14.4 -- --

METHOW RIVER

Loup Loup 19A7 4650 3/3 56 16.4 9.1 7.5 8.9*

YAKIMA RIVER

Colockum Pass	20B9	5370	3/10	60	20.5	13.0	11.8	14.9*
Lake Cle Elum	21B14M	2200	2/15	56	17.6	3.1	0.0	8.5*
Manashtash	20C1	3935	3/10	32	9.4	2.4	0.0	4.0*
#Olallie Meadows	21B2	3625	2/25	120	52.1	16.2	38.8	40.4
Tunnel Avenue	21B8	2450	2/28	82	30.6	10.7	14.2	21.6

GREEN RIVER

Stampede Pass	21B10	3000	2/13 3/3	200 196	60.0 67.5	18.1 14.9	42.1 39.9	34.8 38.4
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SNOQUALMIE RIVER

Olallie Meadows 21B2 3625 2/25 120 52.1 16.2 38.8 40.4

BAKER RIVER

Watson Lakes + 21A8A 4500 2/16 160 64.0 35.9 -- 59.8*

SKOKOMISH RIVER

Black & White 23B7 4200 2/24 132 48.0 29.0 42.2 32.3*

April 1

NOOKSACK RIVER								
Panorama (New)	21A26	4300	3/14 3/25	162 180	68.0 75.0	New Course		

OKANOGAN

Mutton Creek No. 2	19A4	6000	3/28	49	17.7	13.7	21.1	15.1
Salmon Meadows	19A2	4500	3/28	41	10.1	9.8	13.2	10.6

Not located directly on this drainage

+ Snow water equivalent estimated from aerial stadia observation

* Adjusted 1953-67 average

APPENDIX 4

SNOW

DRAINAGE BASIN and SNOW COURSE			1969			PAST RECORD			
Name	No.	Elev.	Date of Survey	Snow Depth (in.)	Water Content (in.)	Water Content (in.)	1968	1967	1953-67 Avg.

Corrections and Additions - 1969 Snow Reports (Cont.)

April 1 (Cont.)SQUILCHUCK CREEK

<u>Scout-A-Vista</u>	<u>20B4</u>	<u>3400</u>	<u>4/1</u>	<u>26</u>	<u>11.7</u>	<u>4.2</u>	<u>1.5</u>	<u>6.4*</u>
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YAKIMA RIVER

Walters Flat	20B15	3360	<u>4/2</u>	<u>17</u>	<u>6.6</u>	0.0	0.0	4.9*
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COWLITZ RIVER

Ohanapecosh	21C32	2200	4/2	42	18.6	0.0	13.6	16.4*
Pigtail Peak	21C33	5900	4/2	152	68.9	44.7	70.2	72.9*

NISQUALLY RIVER

Longmire	21C3	2760	4/1	29	13.7	0.0	14.2	10.6
Stem Glade	21C1	5050	4/1	165	71.3	42.4	82.4	74.4

May 1PEND OREILLE RIVER

Baree Midway	15B16	4600	5/2	66	32.9	27.2	39.0	--
Brush Creek	14A4	5000	4/29	16	6.6	8.3	15.0	10.8
Schweitzer Bowl	16A6	4500	4/30	61	25.2	23.0	37.5	--
Schweitzer Ridge	16A5	6100	4/30	150	67.0	44.8	61.0	--
Smith Creek	16A1	4800	4/30	96	46.7	44.9	61.9	49.4

KETTLE RIVER

Farron	Canada	4000	4/30	25	12.5	12.0	13.2	--
Upper Trapping Cr.	Canada	5500	4/29	9	3.8	6.2	9.4	--

OKANOGAN RIVER

Bouleau Creek	Canada	5000	4/29	24	9.1	--	11.6	7.2**
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WENATCHEE RIVER

Leavenworth R. S.	20B17	1127	4/30	0	0.0	0.0	0.0	--
Stevens Pass S Shed	21B45	3700	4/15	84	40.5	17.3	--	--
			4/29	82	38.4	17.7	--	--

** Average for years of record

* Adjusted 1953-67 average

APPENDIX 5

SNOW

DRAINAGE BASIN and SNOW COURSE			1969			PAST RECORD		
Name	No.	Elev.	Date of Survey	Snow Depth (in.)	Water Content (in.)	1968	1967	1953-67 Avg.

Corrections and Additions - 1969 Snow Reports (Cont.)

May 1 (Cont.)YAKIMA RIVER

#Stampede Pass	21B10	3000	4/14	108	50.3	22.0	<u>53.8</u>	<u>48.6</u>
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MILL CREEK

Tollgate	18D3M	5070	4/29	30	13.8	0.0	<u>24.7</u>	17.5
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GREEN RIVER

Stampede Pass	21B10	3000	4/14	108	50.3	22.0	<u>53.8</u>	<u>48.6</u>
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Not located directly on this drainage

APPENDIX 6
SNOW DATA May 1 to JUNE 1, 1969

SNOW

DRAINAGE BASIN and SNOW COURSE			1969			PAST RECORD		
Name	No.	Elev.	Date of Survey	Snow Depth (in.)	Water Content (in.)	1968	1967	1953-67 Avg.

U P P E R C O L U M B I A D R A I N A G E

PEND OREILLE RIVER

Baree Creek	15B11	5500	5/15	63	32.0	33.6	65.5	--
Baree Midway	15B16	4600	5/15	34	19.2	--	--	--
Hoodoo Creek	15C1	6200	5/15	74	38.8	--	--	--
Lookout	15B2	5250	5/15	53	26.6	22.7	41.1	--
			5/26	31	16.6	11.0	22.8	--
Nelson	Canada	3050	5/14	0	0.0	0.0	1.3	0.8**
Schweitzer Bowl	16A6	4500	5/29	0	0.0	0.0	5.7	--
Schweitzer Ridge	16A5	6100	5/29	82	43.0	24.8	48.5	--

KETTLE RIVER

Big White Mtn.	Canada	5500	5/15	34	16.2	19.2	27.3	18.6**
			5/30	10	5.2	12.0	17.2	10.9**
Carmi	Canada	4100	5/15	0	0.0	0.0	0.0	--
Lower Trapping Cr.	Canada	3050	5/15	0	0.0	.	.	--
#Monashee Pass	Canada	4500	5/14	7	2.8	13.0	13.3	10.9**
			5/29	0	0.0	0.0	3.1	2.5**
Old Glory Mtn.	Canada	7000	5/11	68	36.0	--	45.6	29.0**
			5/31	33	16.4	--	33.5	18.2**
Upper Trapping Cr.	Canada	5500	5/15	0	0.0	0.6	3.2	--

SPOKANE RIVER

Granite Peak	15B13A	6000	5/28	42	22.4	26.7	46.4	--
#Lookout	15B2	5250	5/15	53	26.6	22.7	41.1	--
			5/26	31	16.6	11.0	22.8	--
Lost Lake	15B14A	6000	5/28	83	43.0	32.6	63.8	--
Medicine Ridge	15B4A	6150	5/28	48	25.0	32.3	45.8	--

OKANOGAN RIVER

Blackwall Mountain	Canada	6250	5/12	69	31.0	36.8	44.9	36.4**
			5/28	31	16.7	32.5	36.4	29.1**
Enderby	Canada	6250	5/12	96	44.4	50.2	58.1	45.7**
			5/29	71	33.9	41.5	48.6	41.2**
Hamilton Hill	Canada	4900	5/11	7	3.4	7.8	17.1	--
			5/31	0	0.0	0.0	6.3	--
Isintok Lake	Canada	5510	5/11	4	1.9	3.7	8.8	--
Lost Horse Mtn.	Canada	6300	5/14	16	5.6	--	12.7	--
			5/30	2	1.0	--	--	--

Not located directly on this drainage

** Average for years of record

APPENDIX 7

SNOW

DRAINAGE BASIN and SNOW COURSE			1969			PAST RECORD		
Name	No.	Elev.	Date of Survey	Snow Depth (in.)	Water Content (in.)	Water Content (in.)		
						1968	1967	1953-67 Avg.

OKANOGAN RIVER (Cont.)

McCulloch	Canada	4200	5/14	0	0.0	0.2	0.8	0.7**
Missezula Mountain	Canada	5100	5/28	0	0.0	--	0.0	--
Mission Creek	Canada	6000	5/14	39	18.2	22.1	25.3	19.0
			6/31	13	5.4	17.0	18.2	11.5
Monashee Pass	Canada	4500	5/14	7	2.8	13.0	13.3	10.9**
			5/29	0	0.0	0.0	3.1	2.5**
Mount Kobau	Canada	5950	5/31	0	0.0	0.0	8.5	--
Silver Star Mountain	Canada	6050	5/15	49	27.3	30.2	38.9	25.7**
			5/31	15	7.6	21.0	27.0	15.6**
Summerland Reservoir	Canada	4200	5/10	2	0.7	1.6	5.8	--
Trout Creek	Canada	4700	5/14	0	0.0	0.0	4.9	1.1**

ENTIAT RIVER

Entiat Meadows +	20A33a	4800	5/15	64	33.3	25.8	42.6	--
Fox Camp +	20A36a	6510	5/15	100	52.0	54.2	59.5	--
Pugh Ridge +	20A32a	6400	5/15	61	31.7	29.7	37.8	--
Shady Pass	20A37	5000	5/14	48	25.0	22.0	--	--
Snow Brushy +	20A35a	3850	5/15	37	19.2	16.8	23.7	--
Tommy Creek +	20B21a	5300	5/15	18	9.4	6.5	16.9	--

WENATCHEE RIVER

Stevens Pass	21B1	4070	5/15	101	45.4	29.6	56.6	46.6
			5/29	67	37.6	15.8	41.0	31.2*
Stevens Pass S. Shed	21B45	3700	5/15	43	22.2	8.2	--	--
			5/29	15	8.5	0.0	--	--

YAKIMA RIVER

#Stampede Pass	21B10	3000	5/15	70	38.3	19.2	50.2	--
			5/22	44	23.9	6.5	36.6	--
			5/30	28	15.2	0.0	26.7	18.5*

GREEN RIVER

Stampede Pass	21B10	3000	5/15	70	38.3	19.2	50.2	--
			5/22	44	23.9	6.5	36.6	--
			5/30	28	15.2	0.0	26.7	18.5*

Not located directly on this drainage

* Adjusted 1953-67 average

** Average for years of record

APPENDIX 8

SNOW

DRAINAGE BASIN and SNOW COURSE			1969			PAST RECORD		
Name	No.	Elev.	Date of Survey	Snow Depth (in.)	Water Content (in.)	Water Content (in.)		
						1968	1967	1953-67 Avg.

P U G E T S O U N D D R A I N A G ESKYKOMISH RIVER

#Stevens Pass	21B1	4070	5/15	101	45.4	29.6	56.6	46.6
			5/29	67	37.6	15.8	41.0	31.2*
#Stevens Pass S. Shed	21B45	3700	5/15	43	22.2	8.2	--	--
			5/29	15	8.5	0.0	--	--

BAKER RIVER

Dock Butte	21A11A	3800	5/14	143	72.4	58.8	92.1	66.1*
Easy Pass	21A7A	5200	5/14	151	78.0	83.2	109.8	108.0*
Jasper Pass	21A6A	5400	5/15	181	95.2	100.0	121.7	112.7*
Marten Lake	21A9A	3600	5/14	159	81.0	64.5	102.2	--
Rocky Creek	21A12A	2100	5/14	40	20.6	3.6	28.6	--
Schreibers Meadow	21A10A	3400	5/14	128	66.0	49.2	78.7	69.8*
S.F. Thunder Creek	21A14A	2200	5/14	0	0.0	--	0.0	--
Sulphur Creek	21A13	1600	5/14	3	1.1	--	0.0	--
Watson Lakes	21A8A	4500	5/14	155	76.6	60.5	88.7	81.7*

Not located directly on this drainage

* Adjusted 1953-67 average

Agencies Assisting with Snow Surveys

GOVERNMENT AGENCIES

Canada:

Department of Lands, Forests and Water Resources,
Water Resources Service, British Columbia

States:

Washington State Department of Water Resources
Washington State Department of Natural Resources

Federal:

Department of the Army
Corps of Engineers
U. S. Department of Agriculture
Forest Service
U. S. Department of Commerce
Weather Bureau
U. S. Department of the Interior
Bonneville Power Administration
Bureau of Reclamation
Geological Survey
National Park Service

PUBLIC AND PRIVATE UTILITIES

Chelan County P.U.D.
Pacific Power and Light Company
Puget Sound Power and Light Company
Washington Water Power Company

OTHER PUBLIC AGENCIES

Okanogan Irrigation District
Wenatchee Heights Irrigation District

MUNICIPALITIES

City of Walla Walla
City of Tacoma
City of Seattle

Other organizations and individuals furnish valuable information for snow survey reports. Their cooperation is gratefully acknowledged.

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